

Adding features and ISM limits

Adding new features and/or modifying Incremental Software Management (ISM) limits requires the installation of a new keycode. Keycodes are delivered via diskette or electronic file transfer and installed using the keycode management commands in LD 143 or the Meridian 1 Software Installation Tool.

The procedures below outline the steps to install a new keycode that can be activated "instantly" or that requires a sysload (Cold Restart). More information on the "Instant ISM" feature can be found in the X11 Features and Services guide.

This section describes how to install a keycode using the commands listed below:

LD 143 commands

Keycode delivery	Keycode Installation command
Diskette	Use the KNEW F0 or KNEW F1 command in LD 143
Electronic file on a PC	Use the KUPL command in LD 143, followed by the KNEW HD command (see note)
Faxed to the customer site (paper-based keycode)	Use the KMAN command in LD 143, followed by the KNEW HD command
Note: If the keycode is downloaded from the Keycode Distributor Server (KDS), use the KUPL command to install the keycode. Refer to the Distributor Keycode Application section in this document for more information about KDS.	

Feature operation

Feature operation is further broken down into four options:

- upgrade feature and ISM parameter using a keycode diskette
- upgrade feature and ISM parameter using HyperTerminal

- upgrade feature and ISM parameter entered manually
- Revert to the previous keycode with the KRVR command

For the following procedures, Core 0 is initially active and Core 1 is initially inactive.

Feature and ISM parameter upgrade using a keycode diskette

Leave the system in full redundant mode (hard-disk and CPU redundancy).

- 1 Log in on a system terminal and load overlay 143.
>LD 143
CCBR000
.
- 2 Insert the new keycode diskette into the floppy drive on the active IODU/C card.
- 3 Print the pending keycode contents.

KSHO F1 (or F0)	print the contents of the candidate keycode in the floppy drive on the active Core. Where:
	F1 = Core 1
	F0 = Core 0

- 4 Enter the KDIF command and select keycode comparison options.

Note: Ensure that the new keycode does not lower ISM limits or reduce features compared with the existing keycode. If you have determined that the keycode lowers ISM limits or reduces features, do not continue with the KNEW command, but contact your Nortel Networks order management representative.

. KDIF

Please use: KDIF <param1> <param2>
with the following parameters:

NEW	accepted new keycode
REC	currently used keycode
OLD	previously used keycode
F0	candidate keycode on diskette in /f0 floppy drive
F1	candidate keycode on diskette in /f1 floppy drive
HD	candidate keycode which was uploaded to hard disk

Enter the keycode comparison option. The new keycode option is shown in **bold**.

Note: In the following example, the (REC) currently used keycode will be compared with the new keycode disk in floppy drive F0. The limits shown are for example purposes only.

.KDIF REC F0

Validating Keycode File /p/install/keycode.rec ... OK

Validating Keycode File /f0/keycode.kcd ... OK

System parameters	1st keycode:	2nd keycode:
System Serial Number	: 46XX	46XX
Software Version	: 3311	3311
System Type	: Option 61C	Option 61C
Call Processor	: CP68040	CP68040
Release	: 25	25
Issue	: XX	XX
NTI Order Number	:	
NT SDID - 1	:	
NT SDID - 2	:	
Date and Time of Manufacture	:	

Note: () indicates that information is not available

ISM Limits	1st keycode:	2nd keycode:
Loop Limit	: 32	32
Sys TNs Limit	: 0	200
ACD Agt Limit	: 10	10
ACD DNs Limit	: 10	10
AST Limit	: 10	10

.....

Common packages for both keycodes:
0-2 4-5 7-25 28-29 32-55 58-65

.....

Additional packages in the 2nd keycode:

< 30-31

- 5 Select the new keycode for activation using the KNEW command.

. KNEW F0

The uploaded keycode is validated against the security device.

If the following system message is given:

CCBR020 New Keycode accepted and activated successfully.
Sysload is NOT needed!

This implies that the new keycode is eligible for instant activation and no further user action is required, proceed to step 6 and 7.

Otherwise, if the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is given:

CCBR009 New Keycode accepted. New ISM limits and feature packages will be activated during the next sysload (Cold Restart).

Skip to step 8.

- 6 Load Overlay 22 and confirm that the new ISM parameters have been updated.

>LD 22
REQ SLT

....

If ISM limits are correct then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on page...(NTP group to fill in) if ISM limits are not increased or problems exist.

- 7 Once you have confirmed that the keycode changes taken affect as expected, perform a data dump in LD 43.

- 8 Do these steps for keycodes that are not eligible for Instant ISM.

- a. Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

- b. Be sure CP 0 is active and CP1 is standby. You may need to switch CPs:

LD 135

STAT CPU

SCPU to switch CPUs if necessary

**** exit program

- c. Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

LD 137

STAT Get the status of IODU/C

SWAP Switch IODU/Cs if necessary

**** exit program

- d. In Core 0, set the CP card MAINT/NORM switch to MAINT.
- e. In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.
- f. In Core/Net 1, perform the following three steps in uninterrupted sequence:
- press and hold the MAN RST button on the CP card
 - set the MAINT/NORM switch on the CP card to MAINT
 - release the MAN RST button

A sysload will begin (cold start).

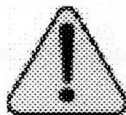
- 9 In the inactive core (Core 1), load Overlay 22 and confirm that the new ISM parameters have been updated.

>LD 22

REQ SLT

....

- 10 Switch call processing from the active core (Core 0) to the inactive core (Core 1).



CAUTION
Service Interruption

Call Processing will be interrupted! Perform these next steps carefully and quickly. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

- a. In Core 0, access LD 137 to software disable the IODU/C card.
>LD 137
.DIS CMDU 0
- b. In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.
- c. In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing will be interrupted.
- d. In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.
- e. In Core 1, press the MAN INT button. Call processing will be switched from Core 0 to Core 1 when the warm restart is completed.

The previously inactive core (Core 1) with the new keycode now becomes active.

- 11 In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to ENB.
- 12 In order to activate the new keycode on the new inactive core, a sysload (Cold Restart) is required.
Press the MAN RST button on Core/Net 0.
- 13 In Core 0, load Overlay 22 and confirm that the new ISM parameters have been updated.
>LD 22
REQ SLT
....

- 14 Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core.
 - a. Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.
 - b. Perform the following in uninterrupted sequence:
 - Press and release the MAN RST button in Core/Net 0.
 - When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD will display and confirm your processes with:

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

- c. In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.
- 15 Test Core/Net 1 and Core/Net 0
 - a. Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI

Get status of CNI cards

STAT CPU

Get status of CPU and memory

TEST CPU

Test the inactive Core/Net

TEST CNI c s

Test each inactive CNI card

b. Switch Cores and test the other side (Core/Net 0)

SCPU	Switch cores
TEST CPU	Test the inactive Core/Net
TEST CNI c s	Test each inactive CNI card

Note: Note: Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

c. Clear the display and minor alarms on both Cores.

CDSP	Clear the displays on the Cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

d. Get the status of the Cores, CNIs, and memory.

STAT CPU	Get the status of both Cores
STAT CNI	Get the status of all configured CNIs and memory

Note: Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

**** exit program

16 Synchronize the hard disks.

- a. Load LD 137 and synchronize the hard disks. Synchronization may take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 0 is disabled.

LD 137

STAT Get the status of the IODU/C and redundancy

SYNC Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing

TEST CMDU Performs hard and floppy disk test.

- b. Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT Get the status of the IODU/C and redundancy

SWAP Switch CMDU if necessary

STAT CMDU Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.

**** exit program

- 17 Perform a data dump in LD 43.

Feature and ISM parameter upgrade using HyperTerminal®

Leave the system in full redundant mode (hard-disk and CPU redundancy).

- 1 On a PC, access the Meridian 1 system (via a modem) with HyperTerminal®:
Click the Start button | Programs | Accessories | HyperTerminal.
- 2 Double-click the HyperTerminal client to the Meridian 1 system.
- 3 Log into the Meridian 1 system.
- 4 Load the Keycode Management Program (LD 143).

LD 143 to load program

KUPL to upload keycodes to the hard disk on the target system

- 5 Click the **Transfer** menu in HyperTerminal and select **Send Text File**.
- 6 From the **Files of type** pull-down menu, select **All Files (*.*)**. *keycode.txt*
- 7 Locate and select the keycode file on the PC. Use the **Look in** pull-down menu to select the drive on which the keycode is located.
- 8 Click **Open**.

The keycode will be displayed after the KUPL prompt.

Example:

```
KUPL 0001PBX 0101
9FPAMSRHNN17KRUQAFFSPREQEVMTIDHRKDJHRKEJR56
```

- 9 Press the Enter key.

The Keycode is checked for CRC errors and is uploaded to the hard disk.

Enter the following command:

KDIF REC HD to compare the existing keycode with the new
keycode on the hard disk

Ensure that the new keycode does not lower ISM limits or reduce features compared with the existing keycode. If you have determined that the keycode lowers ISM limits or reduces features, do not continue with the KNEW command, but contact your Nortel Networks order management representative.

- 10 Select the new keycode for activation using the KNEW command.
KNEW HD
The uploaded keycode is validated against the security device.
If the following system message is given:
**CCBR020 New Keycode accepted and activated successfully.
Sysload is NOT needed!**
This implies that the new keycode is eligible for instant activation and no further user action is required, proceed to step 11 and 12.
Otherwise, if the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is given:
CCBR009 New Keycode accepted. New ISM limits and feature packages will be activated during the next sysload (Cold Restart).
Skip to step 13.
- 11 Load Overlay 22 and confirm that the new ISM parameters have been updated.
**>LD 22
REQ SLT
....**
If ISM limits are correct then the keycode installation is complete.
See "Reverting to the previous keycode with the KRVR command" on page...(NTP group to fill in) if ISM limits are not increased or problems exist.
- 12 Once you have confirmed that the keycode changes taken affect as expected, perform a data dump in LD 43.
- 13 Do these steps for keycodes that are not eligible for Instant ISM.
Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

- a. Be sure CP 0 is active and CP1 is standby. You may need to switch CPs:

LD 135

STAT CPU

SCPU to switch CPUs if necessary

**** exit program

- b. Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

LD 137

STAT Get the status of IODU/C

SWAP Switch IODU/Cs if necessary

**** exit program

- c. In Core 0, set the CP card MAINT/NORM switch to MAINT.
- d. In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.
- e. In Core/Net 1, perform the following three steps in uninterrupted sequence:
- press and hold the MAN RST button on the CP card
 - set the MAINT/NORM switch on the CP card to MAINT
 - release the MAN RST button

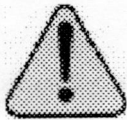
A sysload will begin (cold start).

- 14** In the inactive core (Core 1), load Overlay 22 and confirm that the new ISM parameters have been updated.

>LD 22
REQ SLT

....

- 15 Switch call processing from the active core (Core 0) to the inactive core (Core 1).



CAUTION
Service Interruption

Call Processing will be interrupted! Perform these next steps carefully and quickly. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

- a. In Core 0, access LD 137 to software disable the IODU/C card.
>LD 137
.DIS CMDU 0
- b. In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.
- c. In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing will be interrupted.
- d. In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.
- e. In Core 1, press the MAN INT button. Call processing will be switched from Core 0 to Core 1 when the warm restart is completed.

The previously inactive core (Core 1) with the new keycode now becomes active.

- 16 In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to ENB.
- 17 In order to activate the new keycode on the new inactive core, a sysload (Cold Restart) is required.
Press the MAN RST button on Core/Net 0.
- 18 In Core 0, load Overlay 22 and confirm that the new ISM parameters have been updated.

>LD 22
REQ SLT
....

- 19** Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core.
- a.** Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.
 - b.** Perform the following in uninterrupted sequence:
 - Press and release the MAN RST button in Core/Net 0.
 - When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD will display and confirm your processes with:

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

- c.** In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

- 20** Test Core/Net 1 and Core/Net 0

- a.** Perform a redundancy sanity test using the following sequence:

LD 135

STAT CNI

Get status of CNI cards

STAT CPU

Get status of CPU and memory

TEST CPU

Test the inactive Core/Net

TEST CNI c s

Test each inactive CNI card

- b. Switch Cores and test the other side (Core/Net 0)

SCPU	Switch cores
TEST CPU	Test the inactive Core/Net
TEST CNI c s	Test each inactive CNI card

Note: Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

- c. Clear the display and minor alarms on both Cores.

CDSP	Clear the displays on the Cores
CMAJ	Clear major alarms
CMIN ALL	Clear minor alarms

- d. Get the status of the Cores, CNIs, and memory.

STAT CPU	Get the status of both Cores
STAT CNI	Get the status of all configured CNIs and memory

Note: You may need to execute the STAT CNI command twice before receiving a response from the system.

**** exit program

- 21 Synchronize the hard disks.

- a. Load LD 137 and synchronize the hard disks. Synchronization may take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 0 is disabled.

LD 137

STAT	Get the status of the IODU/C and redundancy
SYNC	Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing
TEST CMDU	Performs hard and floppy disk test.

- b. Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

STAT	Get the status of the IODU/C and redundancy
SWAP	Switch CMDU if necessary
STAT CMDU	Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.
****	exit program

- 22 Perform a data dump in LD 43.

Feature and ISM parameter upgrade enter manually

Before beginning this procedure, you must have a copy of the keycode. The keycode can reside on paper or as an electronic file. To enter the keycode manually, you will type the keycode in LD 143 as 21 lines, 16 characters per line.

- 1 Log into the system.
- 2 Load the Keycode Management Program (LD 143).

LD 143	to load program
KMAN	manually enter the keycode to the target system

- 3 Type keycode file, 21 lines of 16 characters each. Press return to go to the next line.

Note: When entering the keycode, do not enter the header information that proceeds the keycode.

- 4 Type "end" at line 22 to end the process.
- 5 Press enter. The new keycode file will be saved on the hard disk.

Enter the following command:

KDIF REC HD to compare the existing keycode with the new keycode on the hard disk

Ensure that the new keycode does not lower ISM limits or reduce features compared with the existing keycode. If you have determined that the keycode lowers ISM limits or reduces features, do not continue with the KNEW command, but contact your Nortel Networks order management representative.

- 6 Select the new keycode for activation using the KNEW command.

KNEW HD

The uploaded keycode is validated against the security device.

If the following system message is given:

**CCBR020 New Keycode accepted and activated successfully.
Sysload is NOT needed!**

This implies that the new keycode is eligible for instant activation and no further user action is required, proceed to step 7 and 8.

Otherwise, if the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is given:

CCBR009 New Keycode accepted. New ISM limits and feature packages will be activated during the next sysload (Cold Restart).

Skip to step 9.

- 7 Load Overlay 22 and confirm that the new ISM parameters have been updated.

>LD 22
REQ SLT

....

If ISM limits are correct then the keycode installation is complete.

See "Reverting to the previous keycode with the KRVR command" on page...(NTP group to fill in) if ISM limits are not increased or problems exist.

- 8 Once you have confirmed that the keycode changes taken affect as expected, perform a data dump in LD 43.

- 9 Do these steps for keycodes that are not eligible for Instant ISM.

Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.

- a. Be sure CP 0 is active and CP1 is standby. You may need to switch CPUs:

LD 135

STAT CPU

SCPU

to switch CPUs if necessary
exit program

- b. Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

LD 137

STAT

SWAP

Get the status of IODU/C
Switch IODU/Cs if necessary
exit program

- c. In Core 0, set the CP card MAINT/NORM switch to MAINT.

- d. In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.

- e. In Core/Net 1, perform the following three steps in uninterrupted sequence:
- press and hold the MAN RST button on the CP card
 - set the MAINT/NORM switch on the CP card to MAINT
 - release the MAN RST button

A sysload will begin (cold start).

- 10 In the inactive core (Core 1), load Overlay 22 and confirm that the new ISM parameters have been updated.

```
>LD 22
REQ SLT
....
```

- 11 Switch call processing from the active core (Core 0) to the inactive core (Core 1).



CAUTION
Service Interruption

Call Processing will be interrupted! Perform these next steps carefully and quickly. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

- a. In Core 0, access LD 137 to software disable the IODU/C card.
- ```
>LD 137
.DIS CMDU 0
```
- b. In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.
- c. In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing will be interrupted.
- d. In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.
- e. In Core 1, press the MAN INT button. Call processing will be switched from Core 0 to Core 1 when the warm restart is completed.

The previously inactive core (Core 1) with the new keycode now becomes active.

**12** In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to ENB.

**13** In order to activate the new keycode on the new inactive core, a sysload (Cold Restart) is required.

Press the MAN RST button on Core/Net 0.

**14** In Core 0, load Overlay 22 and confirm that the new ISM parameters have been updated.

**>LD 22  
REQ SLT**

....

**15** Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core.

**a.** Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.

**b.** Perform the following in uninterrupted sequence:

- Press and release the MAN RST button in Core/Net 0.
- When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD will display and confirm your processes with:

**RUNNING ROM OS**

**ENTERING CP VOTE**

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

**c.** In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.

**16** Test Core/Net 1 and Core/Net 0

- a. Perform a redundancy sanity test using the following sequence:

**LD 135**

|                     |                              |
|---------------------|------------------------------|
| <b>STAT CNI</b>     | Get status of CNI cards      |
| <b>STAT CPU</b>     | Get status of CPU and memory |
| <b>TEST CPU</b>     | Test the inactive Core/Net   |
| <b>TEST CNI c s</b> | Test each inactive CNI card  |

- b. Switch Cores and test the other side (Core/Net 0)

|                     |                             |
|---------------------|-----------------------------|
| <b>SCPU</b>         | Switch cores                |
| <b>TEST CPU</b>     | Test the inactive Core/Net  |
| <b>TEST CNI c s</b> | Test each inactive CNI card |

**Note:** Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

- c. Clear the display and minor alarms on both Cores.

|                 |                                 |
|-----------------|---------------------------------|
| <b>CDSP</b>     | Clear the displays on the Cores |
| <b>CMAJ</b>     | Clear major alarms              |
| <b>CMIN ALL</b> | Clear minor alarms              |

- d. Get the status of the Cores, CNIs, and memory.

|                 |                                                  |
|-----------------|--------------------------------------------------|
| <b>STAT CPU</b> | Get the status of both Cores                     |
| <b>STAT CNI</b> | Get the status of all configured CNIs and memory |

**Note: Note:** You may need to execute the STAT CNI command twice before receiving a response from the system.

\*\*\*\* exit program

- 17 Synchronize the hard disks.



- a. Load LD 137 and synchronize the hard disks. Synchronization may take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 0 is disabled.

**LD 137**

**STAT** Get the status of the IODU/C and redundancy

**SYNC** Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing

**TEST CMDU** Performs hard and floppy disk test.

- b. Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

**STAT** Get the status of the IODU/C and redundancy

**SWAP** Switch CMDU if necessary

**STAT CMDU** Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.

\*\*\*\* exit program

- 18 Perform a data dump in LD 43.

### Reverting to the previous keycode with the KRVR command

**Note:** The terms "old" and "new" keycode as discussed here refer to the most recent previous KNEW command. The "old" keycode is the former keycode, prior to the KNEW command. The "new" keycode is the keycode that was activated by the KNEW command.

To revert to the old keycode:

- In overlay 143, enter the **KRVR** command.

The old keycode is eligible for instant activation with the KRVR command if the only difference between the old keycode and the new keycode is that some or all of the ISM parameters in the old keycode are *higher*.

If the keycode is eligible for instant activation, it will be activated without further user action, and the following system message is given:

**CCBR020 New Keycode accepted and activated successfully.  
Sysload is NOT needed!**

Otherwise, if the keycode is not eligible for instant activation, a Sysload is needed to activate the new keycode and the following system message is given:

**CCBR009 New Keycode accepted. New ISM limits and feature packages will be activated during the next sysload (Cold Restart).**

Follow below procedures to sysload the system if the keycodes are not eligible for Instant ISM and CCR009 message is displayed:

- 1 Place the system in split mode. This puts a redundant (shadowed) system into single (non-shadowed) mode.
  - a. Be sure CP 0 is active and CP1 is standby. You may need to switch CPs:

**LD 135**

**STAT CPU**

**SCPU**

to switch CPUs if necessary

\*\*\*\*

exit program

- b. Verify that IODU/C 0 is active. You may need to switch IODU/Cs.

**LD 137**

**STAT**

Get the status of IODU/C

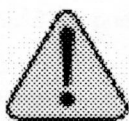
**SWAP**

Switch IODU/Cs if necessary

\*\*\*\*

exit program

- c. In Core 0, set the CP card MAINT/NORM switch to MAINT.
  - d. In Core 1, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS.
  - e. In Core/Net 1, perform the following three steps in uninterrupted sequence:
    - press and hold the MAN RST button on the CP card
    - set the MAINT/NORM switch on the CP card to MAINT
    - release the MAN RST button A sysload will begin (cold start).
- 2 In the inactive core (Core 1), load Overlay 22 and confirm that the new ISM parameters have been updated.
- >LD 22  
REQ SLT  
....
- 3 Switch call processing from the active core (Core 0) to the inactive core (Core 1).



**CAUTION**  
**Service Interruption**

Call Processing will be interrupted! Perform these next steps carefully and quickly. This is the point at which your service is interrupted. Calls in process will be interrupted, especially if Peripheral Software Download takes place. Some calls may be dropped.

- a. In Core 0, access LD 137 to software disable the IODU/C card.
- >LD 137  
.DIS CMDU 0
- b. In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to DIS.
  - c. In Core 0, disable the CNI cards by setting the ENB/DIS faceplate switches to DIS. Call Processing will be interrupted.
  - d. In Core 1, enable the CNI cards by setting the ENB/DIS faceplate to ENB.



- e. In Core 1, press the MAN INT button. Call processing will be switched from Core 0 to Core 1 when the warm restart is completed.

The previously inactive core (Core 1) with the new keycode now becomes active.

- 4 In Core 0, set the DIS/ENB faceplate switch on the IODU/C card to ENB.
- 5 In order to activate the new keycode on the new inactive core, a sysload (Cold Restart) is required.
- 6 Press the MAN RST button on Core/Net 0.
- 7 In Core 0, load Overlay 22 and confirm that the new ISM parameters have been updated.

>LD 22  
REQ SLT

....

- 8 Return the system to redundant mode, synchronizing the memory and hard drive of the inactive core with the active core.
  - a. Enable the CNI cards by setting the ENB/DIS faceplate switch to ENB in Core/Net 0.
  - b. Perform the following in uninterrupted sequence:
    - Press and release the MAN RST button in Core/Net 0.
    - When SYS700 messages appears on LCD display on Core/Net 0, set the MAINT/NORM switch to NORM in Core/Net 0.

In 60 seconds, the LCD will display and confirm your processes with:

RUNNING ROM OS

ENTERING CP VOTE

An HWI534 message indicates the start of memory synchronization. In 10 minutes, an HWI533 message on Core/Net 1 CSPI or SDI terminal indicates the memory synchronization is complete.

- c. In Core/Net 1, set the MAINT/NORM switch on the CP card to NORM.
- 9 Test Core/Net 1 and Core/Net 0

- a. Perform a redundancy sanity test using the following sequence:

**LD 135**

|                     |                              |
|---------------------|------------------------------|
| <b>STAT CNI</b>     | Get status of CNI cards      |
| <b>STAT CPU</b>     | Get status of CPU and memory |
| <b>TEST CPU</b>     | Test the inactive Core/Net   |
| <b>TEST CNI c s</b> | Test each inactive CNI card  |

- b. Switch Ccores and test the other side (Core/Net 0)

|                     |                             |
|---------------------|-----------------------------|
| <b>SCPU</b>         | Switch cores                |
| <b>TEST CPU</b>     | Test the inactive Core/Net  |
| <b>TEST CNI c s</b> | Test each inactive CNI card |

**Note: Note:** Testing the CP and CNI cards and synchronizing memory can take up to 20 minutes for each test. When the CP test is complete, the CP the memory is automatically synchronized.

- c. Clear the display and minor alarms on both Ccores.

|                 |                                  |
|-----------------|----------------------------------|
| <b>CDSP</b>     | Clear the displays on the Ccores |
| <b>CMAJ</b>     | Clear major alarms               |
| <b>CMIN ALL</b> | Clear minor alarms               |

- d. Get the status of the Ccores, CNIs, and memory.

|                 |                                                  |
|-----------------|--------------------------------------------------|
| <b>STAT CPU</b> | Get the status of both Ccores                    |
| <b>STAT CNI</b> | Get the status of all configured CNIs and memory |

**Note: Note:** You may need to execute the STAT CNI command twice before receiving a response from the system.

\*\*\*\* exit program

- 10 Synchronize the hard disks.

- a. Load LD 137 and synchronize the hard disks. Synchronization may take up to 50 minutes. To be sure that the contents of IODU/C 1 hard disk are copied to IODU/C 0 hard disk, verify that IODU/C 0 is disabled.

**LD 137**

**STAT** Get the status of the IODU/C and redundancy

**SYNC** Enter "Yes" to synchronize disks. Wait until the memory synchronization successfully completes before continuing

**TEST CMDU** Performs hard and floppy disk test.

- b. Get the status of the CMDU's and be sure CMDU 0 is active. Switch if necessary.

**STAT** Get the status of the IODU/C and redundancy

**SWAP** Switch CMDU if necessary

**STAT CMDU** Get the status of the IODU/Cs. Be sure the same IODU/C and CPU are active.

\*\*\*\* exit program